

Elm Creek and Sandies Creek TMDL Public Meeting

DRAFT (12-06-04) Meeting Summary – November 18, 2004

Attendees:

Mary Lessor, Lamar Lessor, Brian Holmes, Roger F. Crouch, Clay W. Allen, III, Harold Grauke, James Lassig, Paul Summers, Jr., Dan Crozier, Edward L. Keseling, Melissa Keseling, Bubba Steen, Debbie Magin

Also present was TCEQ - Project Manager Andrew Sullivan and Earlene Lambeth, and TCEQ contracted staff representing: Conrad Blucher Institute for Surveying and Science (CBI) – Frank Kelly, Mark Beaman, Tope Ojo, and Robert Wilkinson; Ecological Communications Corporation (EComm) - Jill Madden and Facilitator Jeremy Walther; and Limno-Tech – Scott Hinz

CALL TO ORDER/WELCOME/INTRODUCTIONS:

Jeremy Walther (EComm) opened the public meeting to provide results from data collected on the Elm Creek and Sandies Creek TMDL project, discuss how the data will be used, and to initiate the formation of a stakeholder group (steering committee). Introductions were made, handouts distributed, and the evenings' agenda was reviewed.

The purpose of the meeting was to inform the public and potential stakeholders on the status of work that was being performed under a Total Maximum Daily Load (TMDL) project for Elm Creek and Sandies Creek as required under the 1972 federal Clean Water Act. The evenings' meetings agenda included presentations on the TMDL program and process, history and development of the project, the next steps that will be taken regarding the project, the 305(b) and 303 (d) listing processes, the initial development of a formal stakeholder group, and an opportunity to provide input from the public on the project.

Public participation is very important and ensures that state government considers local perspectives in its decisions. The Elm and Sandies Creek(s) project will be a joint effort among the state and local stakeholders.

Basic ground rules were briefly reviewed for the informal meeting of the potential Elm and Sandies Creek(s) stakeholders. The following ground rules were set up:

- Everyone's ideas are important--share the time.

- Stick to the topic. Tonight's agenda is the Sandies and Elm TMDL Project. If you have comments related to topics other than this project, please hold them until after the meeting.

- Be candid but courteous.

- Address all comments to the group at large.

PROJECT OVERVIEW

Mr. Andrew Sullivan, the TMDL Project Manager at the TCEQ, focused the discussion on the work that has been done on the Elm and Sandies Creek(s) for a little over two years. Mr. Sullivan began with the results of the data collection and analysis. He explained that Sandies and Elm Creeks were originally included on the impaired waters list due to low dissolved oxygen levels and high bacteria counts. He also explained the improvements that have been made to monitoring technologies and methods since the segments were listed in 2000. Mr. Sullivan briefly explained the four possible outcomes now the monitoring plan had reached its final stages: the removal of Sandies and Elm from the 303(d) list; a TMDL; use attainability analysis; and further data collection.

Mr. Sullivan outlined the monitoring plan, which included data collection for field, chemical, and biological parameters. The purpose of this data was to verify the impairment. He then presented a summary of the results. Generally, dissolved oxygen criteria were not being met for either the minimum nor average criteria. Bacteria levels, which were presented both as a single sample and geometric mean of all samples at a site, also were shown to generally exceed standards. Biological data was collected in case impairment verification would result in an aquatic life use change, one of the four possible outcomes of impairment verification. Mr. Sullivan explained that biological sampling was conducted on fish communities, benthic macroinvertebrate communities, and physical habitat for each station. Indices calculated for fish communities were given the most confidence, followed by benthic macroinvertebrates, then habitat. Each of these indices produced a measure of aquatic life use. The aquatic life use standard for Sandies and Elm creeks is "High;" therefore, any index score that fell within the limited, intermediate, exceptional, or any range other than high were considered not meeting standards. Overall, biological results were below the aquatic life use standards.

During the presentation of the results, a question was presented by a member of the public regarding the sampling effort for each station. Mr. Sullivan responded that between 10 and 20 samples were taken for each station to measure dissolved oxygen and bacteria (*E. coli*) levels. Another attendee inquired about flow levels during sampling events. Mr. Sullivan explained that all sampling was taken at low flows in order to assess conditions in a worse-case scenario.

Mr. Sullivan then reviewed the four possible measures that could be taken now that results have been presented. Removal from the 303(d) list was ruled out as a possibility, since aquatic life use was shown to be less than standards. Further data collection was also negated as a possibility, as data from this project and GBRA collections provide more than enough to make a decision. Therefore, a TMDL will be developed, although an adjustment to the high aquatic life use is also a possibility as the project proceeds. This is not true for contact recreation because there are no levels for contact recreation, and standards cannot be changed for the contact recreation impairment. Therefore, there is no alternative to the development of a TMDL for contact recreation.

Some attendees voiced concerns of the contact recreation designation, and pointed out that Sandies and Elm Creeks are silt-bottom creeks, and that contact recreation is not a

significant use for these creeks. Mr. Sullivan countered that state law requires all stream in Texas be designated for contact recreation, regardless of geographic location and physical characteristics.

Another question was presented asking if specific locations within the segment that may present better overall water quality, such as confluences with spring-fed streams, were sampled in this project. Mr. Sullivan explained that although the sampling was conducted in locations that may not represent the most pristine areas of the segment, the project's intention was to assess water quality over the entire segment. Therefore, the spatial aspect of sampling helps ensure that the general water quality of the entire segment was assessed.

Debbie Magin of the GBRA requested to go on record that small streams such as Elm are unfairly considered as impaired, have high potential to be naturally high-sediment/silt/coliform segments, and that the cost of TMDLs for creeks such as this may not be appropriate. She inquired for the necessary procedure to change the state water quality laws/rules to address this issue for smaller streams. Mr. Sullivan responded that such changes could be carried out during the standards revision process, which has its own stakeholder group and process.

Mr. Sullivan then outlined the TMDL process, and how it helps address known problems in water segments. He also explained how the 303(d) List identifies water bodies that do not meet, or are not expected to meet, applicable water quality standards. The list has a schedule showing when TMDLs will be developed for impaired waters. The EPA approves the 303(d) list and the list is compiled every two years. Once a water body is listed, it is required by the federal Clean Water Act that steps be taken to restore its water quality.

One way to restore water quality is to develop a TMDL. The first step is to collect data to determine if a TMDL is necessary. If it is determined that a TMDL is necessary, the maximum load amount that a stream can take on and still achieve water quality standards is determined for both dissolved oxygen and bacteria. Both nonpoint sources (i.e. agricultural and urban runoff) and point sources are considered and factored into the TMDL. Once a TMDL is established, implementation measures are identified that can reduce load amounts within that segment. Mr. Sullivan identified two different methods of implementation: watershed restoration plans (WRPs), which may be considered preventative; and implementation plans (IPs), which are considered remedial. Mr. Sullivan emphasized the role that stakeholders have in the TMDL process.

After Mr. Sullivan's presentation, a question and answer period was provided. One attendee asked if there were any other potential contributors to the impairment besides dissolved oxygen and bacteria, such as heavy metals. Mr. Sullivan responded that this project is solely looking at those two parameters, and that no other known impairment source is known at this time. Another question was posed regarding current permits in the watershed. Mr. Sullivan stated that no permits will be affected until a TMDL is completed. Land use permits (non-point sources) would also not be affected. An

attendee asked if this project would involve “typing” which includes the identification of exact animal sources of bacteria through genetic analysis. Mr. Sullivan responded that the project will involve bacteria source tracking to an extent unknown at stage in the project. No source tracking data collection has been conducted for Sandies and Elm Creeks at this time.

After a five-minute break, an opportunity was given for more questions. One attendee suggested that the variation in life use scores and other data may be indicative of a small number of sampling events. Mr. Sullivan countered that all the data collected during the past two years, as well as data collected from other entities, does indeed verify impairment. Additional data during intensive data collecting events will be collected during the TMDL development phase of the project. Mr. Sullivan then answered funding questions, and stated that all funding for this project comes from federal sources, and that the budget for the entire project is under one million dollars. Mr. Sullivan was asked to rank Sandies and Elm among all other impaired segments to determine the severity of the impairment. He responded that this segment would fall intermediate to high in comparison.

Robert Wilkinson of CBI then outlined the event-based monitoring plan, which will be carried out within the next several months. Through August 2005, physical and chemical data will be collected during storm events, data collection for bacterial source tracking will be initiated to identify the type of bacteria found in the creeks, and time of travel studies to measure how long it takes certain chemical components to travel down the watershed will all be conducted. This data will be used as input in the mathematical models that will develop the TMDL. Three separate events are budgeted for the current fiscal year. During a sampling event, data will be collected 24 hours a day during the entire storm event, which lasts an average of four days.

Clay Allen asked for information about source tracking. Mr. Wilkinson explained that bacteria is sampled to compare DNA structure of bacteria found in the water with the bacteria from animals, such as wildlife, domestic livestock, and human. Mark Beaman and Mr. Wilkinson cited other studies that have shown wildlife to be a major contributor to high bacteria counts. One attendee questioned what response the state and EPA would have if wildlife was found to be a contributor in Sandies and Elm. Mr. Sullivan stated that once sources are located, those that can be controlled would be the focus of implementation. In the case of wildlife contribution, control methods are limited, and wildlife sources would probably be left as is. Clay Allen asked if there is a health risk posed to a child who wades in Sandies Creek, based on the data results from bacteria sampling during this project. Mr. Wilkinson stated that based on E.coli levels found in these creeks, other harmful bacteria are most likely present. Mr. Sullivan stated that the bacteria standards of 126 and 394 cfu/100mL are based on nationwide studies that compared how many people got sick from swimming in water with varying levels of bacteria. Mr. Walther, Beaman, and Wilkinson all stated indirectly that their personal preference would be to avoid swimming in Sandies and Elm Creeks. Eating fish from those creeks, however, would still be regarded as safe, in their opinion. Another attendee asked if ambient flow has been determined, in order to judge low and high flow

conditions. Mr. Sullivan and Mr. Beaman sited over 30 years of record for a USGS gage in Sandies Creek for this determination. Ms. Magin stated that during a storm event, a spike in bacteria levels would be expected. However, impairment verification was conducted during low flow conditions. She asked how source tracking during storm events would identify contributors of bacteria that were measured during low flow events. Mr. Sullivan and Mr. Wilkinson responded that bacteria levels would also be collected during event sampling.

Scott Hinz of Limno-Tech summarized how data collected from event-based monitoring will be used in models to develop a TMDL. Mr. Hinz outlined the differences between mechanistic models and empirical models. Both types of models only simplify the reality of stream conditions, and provide a prediction of what will happen under certain load inputs. Model parameters such as amount and types of algae, various elements, compounds, and nutrients, dissolved oxygen, bacteria levels, flow, load, etc. will be considered in these models.

Jeremy Walther presented draft ground rules for the steering committee (stakeholder group) in order to initiate the formation of a stakeholder group. Comments on the ground rules may be made and a final version will be created. Once a final draft is approved, all individuals interested in becoming stakeholders will be contacted, and a steering committee will be formalized.

Potential stakeholders will be kept informed, data will be available through the TCEQ web site, and another meeting will be held to discuss the results of the monitoring data.

The next meeting will finalize the stakeholder group, and data from event-based monitoring will be presented.